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Abstract: The most influential approach of corporate governance, the view of shareholders' supremacy does not take into consideration that the key task of modern corporations is to generate and transfer firm-specific knowledge. It proposes that, in order to overcome the widespread corporate scandals, the interests of top management and directors should be increasingly aligned to shareholder' interests by making the board more responsible to shareholders, and monitoring of top management by independent outside directors should be strengthened. Corporate governance reform needs to go in another direction altogether. Firm-specific knowledge investments are, like financial investments, not ex ante contractible, leaving investors open to exploitation by shareholders. Employees therefore refuse to make firm-specific investments. To gain a sustainable competitive advantage, there must be an incentive to undertake such firm-specific investments. Three proposals are advanced to deal with this dilemma: (1) The board should rely more on insiders. (2) The insiders should be elected by those employees of the firm who are making firm-specific knowledge investments. (3) The board should be chaired by a neutral person. These proposals have major advantages: they provide incentives for knowledge investors; they countervail the dominance of executives; they encourage intrinsic work motivation and loyalty to the firm by strengthening distributive and procedural justice, and they ensure diversity on the board while lowering transaction costs. These proposals for reforming the board may help to overcome the crisis corporate governance is in. At the same time, they provide a step in the direction of a more adequate theory of the firm as a basis for corporate governance.

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Shareholders Should Welcome Knowledge Workers as Directors

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Abstract. The most influential approach of corporate governance, the view of shareholders' supremacy does not take into consideration that the key task of modern corporations is to generate and transfer firm-specific knowledge. It proposes that, in order to overcome the widespread corporate scandals, the interests of top management and directors should be increasingly aligned to shareholder' interests by making the board more responsible to shareholders, and monitoring of top management by independent outside directors should be strengthened. Corporate governance reform needs to go in another direction altogether. Firm-specific knowledge investments are, like financial investments, not ex ante contractible, leaving investors open to exploitation by shareholders. Employees therefore refuse to make firm-specific investments. To gain a sustainable competitive advantage, there must be an incentive to undertake such firm-specific investments. Three proposals are advanced to deal with this dilemma: (1) The board should rely more on *insiders*. (2) The insiders should be elected by those employees of the firm who are *making firm-specific knowledge investments*. (3) The board should be chaired by a *neutral person*. These proposals have major advantages: they provide incentives for knowledge investors; they countervail the dominance of executives; they encourage intrinsic work motivation and loyalty to the firm by strengthening distributive and procedural justice, and they ensure diversity on the board while lowering transaction costs. These proposals for reforming the board may help to overcome the crisis corporate governance is in. At the same time, they provide a step in the direction of a more adequate theory of the firm as a basis for corporate governance.

Key words: corporate governance, shareholders, board directors, insiders, firm-specific knowledge

JEL Classification: D23, D83, L14, G34, M50

1. Introduction

Recent corporate scandals have turned the spotlight on corporate governance. Numerous suggestions have been made to how the efficiency of the boards could be improved, but only a few of these suggestions have taken into account what today is common understanding in the strategic management literature, namely that the key task of firm governance is to generate, accumulate, transfer and protect valuable knowledge and capability (e.g. Penrose, 1959; Rumelt, 1984; Grant, 1996; Kogut and Zander, 1996; Spender, 1996; Teece et al., 1997; Foss and Foss, 2000). In particular, the main approach in the corporate governance discussion, the view of shareholders' supremacy, disregards knowledge work aspects. It has a marked influence on the present discussion, both in theory and practice (Daily et al., 2003). This approach contends that the key activity of boards is to monitor management on behalf of shareholders. It does not differentiate between governing the management of physical and knowledge work.

In the second section, we present various theoretical approaches to the theory of the firm which underpin different suggestions for improving corporate governance: the traditional view of the firm as a nexus of explicit contracts, the view of the firm as a nexus of firm-specific investments and our view of the firm as a nexus of firm-specific *knowledge* investments. We show that each approach leads to different conclusions with respect to corporate governance and argue that the two first approaches have major shortcomings. In the third section, we make our own suggestions for improving corporate governance. In the fourth and fifth sections, we discuss arguments in favor of and against our proposal. We conclude by stating that corporate governance reform must be based on an adequate theory of the firm that integrates theories of value generation *and* value distribution.

2. Alternative Theoretical Views on Corporate Governance

2.1. THE FIRM AS A NEXUS OF CONTRACTS

The dominant view of corporate governance is a particular application of agency and property rights theory. It first assumes that shareholders should have supremacy and second that there exists in the modern corporation a conflict of interest between shareholders as principals and managers as agents. Though these assumptions do not necessarily follow from agency and property rights theory (Grandori, 2004, p. 4), they are typically so stated in the corporate governance literature (e.g. Shleifer and Vishny, 1997). They have been derived from the view of the firm as a nexus of contracts (Jensen and Meckling, 1976).

The current main idea "official view of corporate governance" (Bebchuk and Fried, 2004) is that there exists a conflict of interest between managers (agents) and shareholders (principals), caused by the separation of ownership and control in public corporations (Berle and Means, 1932). In order to align their interests, the control of management must be transferred to the board of directors as a second level of agency (e.g. Black, 1992). To achieve better alignment of interests of directors and managers with those of shareholders the pay of managers and directors should be tied to their performance and the independence of the board should be strengthened (e.g. Jensen and Murphy, 1990; Jensen, 1993).

The wave of corporate scandals and the explosion of management compensation drew attention to flaws in the corporate governance structure according to this ''official view''. Even its proponents now admit that the explosion of executives' and directors' pay has proven to be 'managerial and organizational heroin' (Jensen et al., 2004, p. 45). Critics speak of 'pay without performance' (Bebchuk and Fried, 2004). In order to improve Corporate Governance, mainly two measures have been discussed:

First, the board should become more independent of their CEOs in order to monitor them more efficiently. The board should operate at arms' length from the executives. As a result, the board would be less inclined to tolerate the rent-seeking behavior of CEOs. Boards too closely linked to executives hinder market forces, like the markets for capital, corporate control and managerial labor, from imposing stringent constraints on managers. Rather, they frequently see themselves as subordinates of the CEO. Therefore, the CEO should be the only insider of the firm with board membership (Jensen et al., 2004, p. 55).

Second, the board should become more responsible to their shareholders. Board members should be made more attentive to the shareholders' interests. For instance, board members should stand for annual election by the shareholders (Bebchuk and Fried, 2004).

The idea of board independence has been widely accepted but does not seem to contribute much to solving the problem. Most importantly, it has not led to pay moderation of CEOs and other managers. The stronger dependency of directors on shareholders might even have fueled the pay explosion, because in speculative markets it tends to align interests of CEOs to short-term share price maximization (Bolton et al., in press). In addition, a meta-analysis of fifty-four studies on board dependence shows no statistical relationship between board independence and firm financial performance (Dalton et al. 1998).

The conflict of interests between managers and shareholders discussed is based on the idea of shareholders' supremacy in the firm as a nexus of contracts. In this view, the firm is 'a legal fiction which serves as a focus for the complex process in which the conflicting objectives of individuals ... are brought in equilibrium within a framework of contractual relationship' (Jensen and Meckling, 1976, p. 312). All possible conflicts between shareholders and other stakeholders (including the employees) can be solved ex ante by contracts. Only shareholders carry a residual risk and should therefore have residual ownership and control. As a consequence, directors should act solely in the interests of the shareholders, because it is not possible to maximize more than one objective (Jensen, 2001).

As the intensive recent discussion in the *Journal of Management and Governance* (Asher et al., 2005; Blair, 2005; Grandori, 2005) demonstrates, belief in shareholders' supremacy is inadequate when it comes to carrying out a theoretical analysis of today's firms, which gain their competitive advantage through knowledge rather than physical investments. It would be surprising if proposals derived from an inadequate theory could lead to successful practical implications.

2.2. THE FIRM AS A NEXUS OF FIRM-SPECIFIC INVESTMENTS

The nexus of contract view is misleading and projects a legalistic picture of the firm (Zingales, 2000). Although de jure equity is the only residual contract, de facto firms' decisions have a strong impact on other members of the nexus, sometimes to an even greater extent than the impact on shareholders. This argument has been taken up by proponents of the theory of incomplete contracts. They argue that shareholders' supremacy is nevertheless justified because they have fewer contractual safeguards than other stakeholders (Williamson, 1985). Hansmann (1996) argues that the costs of (external and internal) decision-making between different stakeholders should be taken into account. There exists a preference for leaving the ultimate decisions to the shareholders, because the interests among shareholders have the highest degree of homogeneity.

In contrast, Blair (1995), Zingales (1998), and Blair and Stout (1999) argue that it is not in the interest of the shareholders to be the exclusive owners of residual control. Firms exist because they produce what are commonly called quasi-rents (Klein et al., 1978) or synergies (Foss and Iversen, 1997). Quasi-rents represent the difference between what the parties inside the firm jointly generate and what each of them can obtain in the market. Quasi-rents are the outcome of mutually specialized assets of people who make firm-specific investments (Rajan and Zingales, 1998). These investments cannot, or only at high cost, be protected by contracts *ex ante* when the parties enter into a relationship. They represent transaction-specific investments that cause sunk costs once the contract has been made and are subjected to hold up. What matters is that investors' *ex post* bargaining position is weakened when the quasi-rents are divided (e.g. by discussing their wages after entering the contract). Their firm-specific investment is of little or no value outside the firm and decreases their outside opportunities during the term of the contract. It is primarily employees who are affected by such hold up. It has been shown empirically that employees who are forced to find new jobs lose, on average, 15 percent of their wages (Osterman, 1999). If they were employed in the firm for more than 21 years, they stand to lose as much as 44 percent of their wages (Topel, 1991). As a consequence, employees have no incentive to undertake firm-specific investments if their bargaining position is not protected after they enter into the labor contract (Freeman and Lazear, 1996).

This critique of the view of the firm as a nexus of contracts leads to a view of the firm as a nexus of firm-specific investments (Blair and Stout, 1999). These firm-specific investments create room for ex post bargaining after the contracts have been finalized. For this reason, corporate governance can be defined as a set of constraints shaping the ex post bargaining over the joint output of firm-specific investments (Zingales, 1998). Blair and Stout (1999, 2001) claim that it is the board that has to take over the task of governing the firm-specific investments and mediating between possible conflicting interests of investors in firm-specific assets, which cannot be contracted ex ante. In Blair and Stout's view, the board should act as a neutral third party, which is not involved in firm-specific investments. It should act as an impartial 'mediating hierarch' and therefore should consist mainly of outside directors. This proposal constitutes a pioneering development in the corporate government discussion, but should be expanded upon. In particular, this proposal envisages voting rights only given to shareholders, thus maintaining shareholders' supremacy. As Aglietta and Reberioux (2005, p. 40) criticize, Blair and Stout (1999) "give voting rights to shareholders less for analytical reasons specific to their model and more for shaping this model to fit US reality".

2.3. THE FIRM AS A NEXUS OF KNOWLEDGE-SPECIFIC INVESTMENTS

Blair and Stout's proposal is important but nevertheless neglects to address the crucial differences between firm-specific investments in *knowledge* and physical or financial capital. There are fundamental differences between firm-specific investments in knowledge and physical goods. These differences are neither addressed in Blair and Stout's proposal nor in the proposal advanced by Aglietta and Reberioux (2005). *First*, as far as knowledge investments are concerned, it is not only too expensive to contract firm-specific investments ex ante before entering a contract, but it is simply impossible. A knowledge worker cannot contract his or her future knowledge as such due to the "knowledge paradox" highlighted by Arrow (1973, p. 171): The value of knowledge invested in the potential acquirer is not known until after the knowledge is revealed. Once revealed, the potential acquirer has no need to pay for it.

Second, the generation of knowledge cannot be evaluated in the same way as physical goods during the contract term. Only insiders or peers can evaluate firm-specific knowledge generation and transformation, because outsiders are rarely able to comprehend the processes involved. Outside directors usually evaluate knowledge investments by judging the financial consequences of knowledge encapsulated in marketable products or projects successfully carried out. They are not able to evaluate the quality of the knowledge process itself, and are thus not able to protect knowledge investors from a deterioration of their bargaining position during the interim period when joint knowledge has not yet led to a recoverable output.

Third, the information asymmetry between management and outside directors leads to the external board members being dependent on executives for information. Under present conditions, a board dominated by outside directors has to rely largely on information provided by the top executives. In most cases, the CEO sets the agenda for the board. Most of the information that board members receive originated from the CEO. It rarely happens that the board meets without the CEO's presence (Jensen et al., 2004, p. 54).

All these arguments suggest that firm-specific knowledge investments are crucial for a sustained competitive advantage for the firm – which is a widely shared view today – and corporate governance should involve inside knowledge workers in the decision-making process of the firms' boards. There are two justifications. First, according to the knowledge-based view, firm-specific knowledge, in particular of a tacit nature, is the most critical resource. Outside board members cannot understand the firm's tacit knowledge base and its strategic relevance (Coff, 1999, p. 126; Barney, 2005, p. 946). Second, contractual provisions such as regulating exit, the vesting of options and repayment schemes are in most cases no valid alternative to board representation of knowledge workers. The reason is that the underlying conflicts between shareholders and knowledge workers concerning the appropriation of the quasi rents appear in full force only at the level of the board where all conflicting parties should be represented. Thus, these conflicts cannot be resolved by a human resource manager, working at a lower level. This is in line with the definition of corporate governance provided by Zingales (1998) cited above (see also Hart, 1995, p. 679). Such conflict resolution is also in the interests of the shareholders themselves as it leads to an increase in the value of the firm. How this can be achieved is discussed in the following section.

3. New Proposals for Corporate Governance

The distinct characteristics of firm-specific knowledge investments justify that knowledge workers are represented on the board. All other stakeholders, with the exception of shareholders, are better able to form ex ante contracts and therefore need not be represented on the board. Knowledge is indeed a special resource unlike any other resources, as highlighted by Arroẃs (1973) knowledge paradox: All other resources can in principle be contracted, though sometimes at a high cost. This is not the case for knowledge as long as it is not encapsulated in a marketable product. Moreover, even in this case the problem of attributing the contribution of each worker to the product is unresolved. Thus, the knowledge workers and the shareholders should be involved in the residual control as they bear the brunt of the non-contractible residual risk. Contrary to what has been proposed by the dominant view of shareholders' supremacy, this leads us to propose board arrangements:

– *First*, the board should rely more on *insiders*. The percentage of insiders relative to outsiders should be determined by the relationship of firm-specific knowledge capital to financial capital.
– *Second*, these insiders should be elected by, and responsible for, those *employees of the firm making firm-specific knowledge investments*. The board should no longer be solely an instrument of financial investors, but also an instrument of knowledge investors, and should have the task of aligning the interests of these constituents.
– *Third*, a *neutral person* should chair the board. His or her main task is to enable the board members to engage in a productive discourse to the mutual benefit of all members of the firm. Moreover, he or she has to ensure that the conditions are such that the board members are prepared to contribute to the firm's common good, and to refrain from rent seeking.

The next subsections discuss these three proposals in more detail.

3.1. INSIDERS ON THE BOARD

Insiders of the firm, especially those who are knowledge workers, have three major advantages over outsiders on the board.[1] First, they are better informed about the issues and problems concerning the firm's business (Baysinger and Hoskisson, 1990; Hillmann and Dalziel, 2003), in particular they can better understand the firm's tacit knowledge base (Coff, 1999, p. 126). The more important the firm-specific knowledge is, and the more diversified and decentralized the organization structure of a company is, the less knowledge is shared with outsiders on the board about what is really going on in the firm (Child and Rodrigues, 2003). Outside directors are able to monitor executives mainly through exerting output control, based upon clearly defined performance targets (Ouchi, 1978). They have only limited control over the transformation processes, which help evaluating the performance when innovative knowledge work is crucial. The more firms compete on the basis of innovation, the more this applies. In times of high uncertainty and rapid change, it is no longer possible to maintain control through targets set by hierarchical control, because targets in these cases have to be reset at regular intervals. It follows that control has to be based on a mutually agreed, ongoing revision of goals that take into account new search procedures. Such a procedural control is similar to the one commonly used in various professions. It is not possible to evaluate the quality of performance from outside, but only from mutual monitoring on the inside. Our proposal applies the insight of organization theory that the decision rights should be assigned to the actors possessing relevant knowledge in the design of corporate governance (Grandori, 2004, p. 5).

A second important advantage of having insiders on the board is that it lessens the board's dependence on CEOs for supplying information. Knowledge workers as directors are a well-informed source of inside information not filtered by the CEOs. These inside directors have superior explicit knowledge, as well as tacit knowledge, on the specific issues and problems facing the firm. At the same time, insiders mitigate the problem of double agency-relationship. The first consists of owners and management, the second of management and employees (Child and Rodrigues, 2004). The inside directors are able to bridge the gap between these groups.

Third, it is not in the interests of outside executive directors, who are also CEOs of other firms, to seriously challenge the policies, especially the remuneration of executives. It is well known that outside CEOs view the board through CEO eyes, i.e. through a lens, which does not seriously challenge the power of the CEO. For example, a study by O'Reilly et al. (1988) found that the pay of the compensation committee members was a better predictor of CEO compensation than the actual performance of the firm. Thus, the membership of employees in the compensation committees would have a moderating effect upon the mutual hiking up of compensations by the cross-board membership of outside CEOs.

The three advantages might be criticized by arguing that knowledge workers, as employees of the firm, are subservient to the interests of the executives to whom they are subordinated in the firm's hierarchy. But, as we will argue in the next section, these knowledge directors gain a measure of independence by being elected by, and responsible to, the body of knowledge investors in the firm.

3.2. REPRESENTATION OF KNOWLEDGE INVESTORS ON THE BOARD

To solve the problem that contracts cannot be formed ex ante and that the insiders may be subservient to the very managers whom they are supposed to control, we propose an institutional solution: *Financial and knowledge investors should be represented on the board.* Other stakeholders and employees with no firm-specific investments are better able to contract their contributions to the firm ex ante. Suppliers of plant equipment, for example, normally retain the equipment as long as they have not received full payment. The claims of employees with no firm-specific investments are also ex ante contractible via market wages. Therefore, these groups do not need protection via representation on the board. In contrast, the whole investment of a shareholder is placed at risk of becoming a residual claim (Williamson, 1985). The same applies to the investors in firm-specific knowledge. To protect them, and to give them an incentive to invest, these groups must be represented on the board.

The relationship of the two groups ought to be proportional to the relation of investment in financial capital and investment in firm-specific knowledge capital. As a consequence, in a firm in which firm-specific knowledge investment is very important, the board should contain a large percentage of representatives of knowledge investors. An example are members of a design team who make an effort to learn 'who knows what', so contributing to a firm-specific transactive memory (Wegner, 1986; Moreland, 1999). In addition, they invest in developing knowledge that complements the knowledge of other team members to raise joint output (Coff, 1999). If such an employee has to leave the firm she has not only lost her relational capital but cannot convincingly show to another employer what her contribution was worth. Investing in such a way means losing bargaining power compared to investment in general marketable knowledge.[2] In contrast, knowledge that has the same marketable value irrespective of the firm in which it is used, should not be represented on the board. Examples are professionals working in consultancies, accounting firms or legal companies, who often have closer relationships to their customers than to their firm. When they decide to work for another company, they often take their customers with them and have no sunk costs.

There are several proposals for measuring knowledge capital (e.g. Strassmann, 1999; Bontis, 2001; Lev, 2001; Lev and Radhakrishnan, 2003). To get the firm-specific investment of employees in knowledge capital, the knowledge capital must be reduced by a factor, which, on the one hand, captures the average reduction in wages employees of the firm would suffer if they had to work in another firm. On the other hand, it should include the average investment the firm has made in the knowledge of its employees. This calculation requires an econometric analysis in which average wage rates in the firm are estimated, depending on a set of individual characteristics of the employees, as well as a variable that measures the time each employee spent in the firm. As an alternative to this intricate process, a firm could voluntarily offer its employees a share of seats in the board corresponding to the attractiveness it desires to exhibit towards potential contributors to firm specific knowledge. Such a procedure has the advantage of being future oriented.

We suggest that each employee has voting rights, according to his or her firm-specific investment. It ranges from zero to one. The size of this investment is captured by the estimated individual reduction in wage an employee would sustain if he or she had to transfer to another firm.

Employees who sustain no estimated loss from having invested in their firm specific knowledge, or who gain an estimated net profit from knowledge investments by the firm, should have no vote. The econometric analysis to calculate individual wage reductions or gains must include a large set of personal characteristics of the employees, as well as a variable capturing the fact of having been an employee of the firm in question. If the coefficient of this latter variable is negative, the employee suffers a loss due to having invested knowledge in the firm in question. In that case, the group of employees meeting these characteristics should have the right to vote according to the size of the coefficient econometrically estimated. Again, the procedure can be facilitated and turned future oriented by voluntarily offering potential contributors to firm specific knowledge the right to vote for their representatives in the board.

3.3. NEUTRAL CHAIR OF THE BOARD

We envisage a *neutral chair*, whose task it would be to guarantee an open discussion on the board so that all aspects can be duly considered. He or she should establish, as good as they can, what has been called an ideal speech situation (Habermas, 1987; Steinmann, 1990). In particular, he or she has to make sure that the procedural rules are strictly observed and that all relevant arguments are heard and considered. The chair should make an effort to secure consensus on the board, especially when complicated issues are at stake.[3] Unanimous decisions on the board should be required for constitutional issues of the firm (Buchanan and Tullock, 1962; Romme, 2004). The chair should also decide when, and when not, it would be useful to have the executives partake in the meetings of the board, thus securing the board a further measure of independence. The chair is therefore a specialist in procedures; he or she should not have any voting rights in order to remain truly independent. This can be compared to the task of a judge in relation to the jury.

The neutral chair of the board should be elected by the unanimous vote of its members. This ensures ex ante neutrality and grants him or her independence vis-à-vis any special faction of the board. Therefore, this person should be an outsider to the firm and should not be connected to the firm through previous employment or through any other capacity. Thus, we reject the common practice of appointing former CEOs as chairpersons of the board.[4]

4. Potential Counterarguments

It could be argued that the proposals made on how the board should be constituted are inadequate in various respects. We discuss four potential major counterarguments.

1. Professionals tend to invest less firm-specific knowledge than other employees, because their higher education allows them to productively use their knowledge in a variety of firms. Higher education means that one has 'learned to learn', a faculty raising flexibility and adaptation to new challenges. Moreover, professionals define themselves to a high degree by following rules and norms developed by the respective professional community of which they are members. These rules and norms are specific to their particular activity and not to the firm in which they are employed (Scott, 1966; Larson, 1979). This allows them to keep valuable outside options open. According to our proposal, they should not be represented on the board if they fail to undertake any substantial firm-specific investments. This would mean that their considerable knowledge cannot be used to counter the executives' superior knowledge. The board's dependence on information from the CEOs is not solved.

This argument does not take into account that, under the present corporate governance system, professionals have little incentive to actively bring their specialist knowledge to a firm. But our plan to offer them representation on the board provides them with an incentive to invest in firm-specific knowledge. As a compensation for the reduction in valuable outside opportunities, they gain bargaining power in the firm they are associated with. Thus, the counterargument mentioned starts from a static point of view. In equilibrium, after certain adjustments have taken place, professionals will be represented on the board.

2. It could be argued that a representation of knowledge investors can be achieved within the prevailing corporate governance system. Knowledge investors can be remunerated by equity-based compensation, which makes them shareholders. In that capacity, they can elect persons representing them on the board.

This argument does not take into account that such shares in stock, given to the knowledge investing employees, must be restricted in order to hinder a coalition of executives and inside directors from exploiting pure financial investors. Such a coalition could provide incentives for rent seeking and 'earnings management', due to the unlimited power of increasing the dependence of outside directors on accessing information. Stock-based compensation, first and foremost, gives an incentive to increase expectations, but not performance (Martin, 2003). A coalition of both knowledge investors and executives being shareholders might be unbeatable in manipulating expectations of financial investors to their own advantage.[5] Financial investors for the most part do not understand the processes of knowledge generation in the firm. For instance, they find it difficult to evaluate the emergence and the potential of a new technological trajectory[6] in which the firm invests.

Therefore, knowledge investors owning shares must be forced to restrict any advantages they have from insider information, at least in the same way as executives owning shares are restricted. However, it is well known that such restrictions have proved to be ineffective. Restrictions mean that the respective stocks are not fully tradable and can therefore not be used as part of a risk diversification strategy. As a consequence, they are less valuable to the individual restricted stockholder than the cost to the firm as a means of remuneration. It is estimated that, under reasonable conditions, individuals evaluate e.g. a standard option program to less than 60 percent of the cost to the providing firm (Hall and Murphy, 2002; Meulbroeck, 2000).

3. It may be argued that our proposal is counterfactual to the trend away from insiders in the board (Murphy and Zabojnik, 2005). This may indeed be an empirical fact, but it does not have the expected positive effects. The explosion of executive compensation has not been halted (see e.g. Bolton, Scheinkman and Xiong, in press). Empirical evidence also suggests that there is no correlation between the number of outside directors and the financial performance of the firm (Dalton et al., 2003; Hermalin and Weisbach, 2003). The explanation for this inconsistency may be found in the disregard of the advisory role of directors in the dominant corporate governance discussion (Lawler and Finegold, 2006; Adams and Ferreira, in press). Thus the empirically observed trend goes in the wrong direction.

4. Our plan might be criticized for having similarities to German co-determination. In German corporations with more than 2000 employees, the board must have a 50 percent representation of the employees.[7] Many economists consider such a legal imposition a sure way to reduce firm efficiency (e.g. Jensen and Meckling, 1979) or pareto-efficiency (Freeman and Lazear, 1996). It therefore seems a bad idea to imitate such co-determination.

Nevertheless, empirical evidence produces contradictory results. Some authors argue that co-determination reduces efficiency (e.g. FitzRoy and Kraft, 1993), while others find that it raises efficiency (e.g. Zwick, 2004). A comprehensive analysis of the existing empirical literature finds neither negative nor positive effects for co-determination on firm performance (Addison et al., 2004). In any case, the empirical analyses do not make a difference regarding the effect of co-determination according to the importance of firm-specific knowledge investments. Moreover, it is important to see that the plan here suggested is purely voluntary and should be adopted by shareholders because the self-restriction of their power is in their enlightened self-interest (Asher et al., 2005).[8] In contrast to our proposal, which specifies a representation of employees according to the extent of knowledge investment, the rigid requirements of the German co-determination law imposes a fixed percentage of employees on the board. This regulation, in general, produces only few knowledge investors to be represented on the board. Our plan provides an incentive to implement knowledge investments and therefore raises the efficiency of the firm.

5. Advantages of Our Proposal

5.1. PROVIDING INCENTIVES FOR KNOWLEDGE INVESTORS

It is worth repeating our plan's greatest strength. Employees have a stronger incentive to become knowledge investors, i.e. to invest in firm-specific knowledge capital. This incentive is particularly important for highly educated professionals who, under the present corporate governance conditions, have little incentive to become more fully engaged with the firm they are working for. Investing in firm-specific knowledge reduces their outside options, and thus their bargaining position inside and outside of the firm.

These missing incentives stand in sharp contrast to the emphasis on firm-specific knowledge as the most important competitive advantage, which is hard to imitate. In contrast, our plan provides these incentives and contributes to building up firm-specific knowledge capital and therewith leads to sustainable efficiency rents to firms. Our proposal helps us to overcome one important flaw of the knowledge-based theory of the firm: This theory disregards the incentives individuals would have to generate and transfer knowledge.[9]

5.2. COUNTERVAILING THE DOMINANCE OF EXECUTIVES

Insiders, who possess great familiarity with internal processes, and with internal tacit knowledge, can monitor the executives more efficiently than outsiders can, as they are less dependent on the information provided by the executives. In addition, their function as representatives of the employees strengthens participation and self-governance by the corporate community as a part of corporate governance. Anyone breaking the rules is more easily identified by colleagues than by superiors, and can be informally admonished. This assures that others are doing their part in contributing to the firm's common good, and are refraining from rent seeking. One of the most important common goods inside companies is corporate virtue. This entails a generally shared notion of what honesty in business is about, and behaving correctly, even when not being watched or formally sanctioned (Osterloh and Frey, 2004). In contrast, in the case of the corporate scandals involving Enron and WorldCom, it is well known that the dishonest behavior of top management was common knowledge among employees (Spector, 2003). But formal, as well as informal, accusations of malpractice or whistle-blowing have been the exception rather than the rule. External directors have neither the necessary information to reveal misbehavior, nor are they sufficiently trusted to be approached by the employees; they are considered to be representatives of the shareholders and, as such, perceived as opponents rather than confederates.

Another advantage of having insiders on the board stems from the insight that process control performed by peers or insiders is perceived as a supportive function rather than an external control. As has been established by crowding theory (Frey, 1997; Osterloh and Frey, 2000; Frey and Osterloh, 2002, 2005), an intervention perceived as controlling undermines intrinsic work motivation, while a procedural control by experts is perceived as supporting (Gittell, 2000) and fair (Bies and Shapiro, 1988), crowding in intrinsic work motivation.

5.3. STRENGTHENING INTRINSIC WORK MOTIVATION AND LOYALTY TO THE FIRM BY DISTRIBUTIVE FAIRNESS

Representation of knowledge workers on the board helps to prevent their exploitation by executives and shareholders. Many employees, in particular knowledge workers, are to a considerable extent intrinsically motivated. In order be creative, knowledge work needs autonomy (Amabile, 1996), which is the most important condition for becoming intrinsically motivated (Frey, 1997; Deci and Ryan, 2000). But such intrinsic motivation is undermined if individuals feel treated unfairly or exploited, by conditions in which distributive justice is disregarded (Osterloh, 2005). At the same time, loyalty to superiors and to the firm as a whole is diminished, as the literature on psychological contracts (Rousseau, 1995) and Organizational Citizenship Behavior (OCB) impressively shows (Organ and Ryan, 1995). To ensure that distributive fairness can be exercised, the respective authorities must be able to judge who has contributed what to the body of firm-specific knowledge and must be represented in the top decision making unit, the board. As already argued, external directors are not in the position to perform this job. They normally cannot judge the quantity and quality of knowledge work itself. They are only able to evaluate the financial effects of knowledge encapsulated in marketable products or projects carried out successfully. Only participants in the knowledge process – who must therefore be inside knowledge workers and peers – stand a good chance of successfully performing this job and being perceived as acceptable evaluators by their colleagues.

5.4. STRENGTHENING INTRINSIC WORK MOTIVATION AND LOYALTY TO THE FIRM BY PROCEDURAL FAIRNESS

Individuals' intrinsic work motivation depends largely on perceived procedural, and not only on distributive fairness (Tyler and Blader, 2003; Frey et al., 2004). Moreover, following rules of fairness signals a commitment towards partners in joint production. This creates a framing effect signaling a partial suspension of gain driven behavior (Lindenberg, 2002, 2004). Our proposal entails an institutional safeguard for procedural fairness in the form of an outsider, not involved in firm-specific investment constituting a neutral chair. This person, elected unanimously by all other members of the board, without any voting rights on the board, has the function of an impartial mediator. He or she is institutionally safeguarded against being subjected to the 'self-serving bias'. Even honest people can fall prey to this unconscious bias, which conflates judgments on what constitutes fairness and what is beneficial for oneself. Unlike conscious corruption, such conflation cannot be deterred by sanctions (Babcock and Loewenstein, 1997; Bazerman et al., 2002). However, it can be reduced, by lowering the incentives to take care of one's own interests. This is exactly what the institution of a neutral chair of the board ensures and what makes him or her a credible mediator for the shareholders, knowledge workers and executives alike.

5.5. ENSURING DIVERSITY ON THE BOARD WHILE LOWERING TRANSACTION COSTS

The neutral chair has a second important function on the board. On one hand, representation by shareholders and knowledge workers ensures that a multitude of different aspects are represented on the board. Such diversity is important for making wise strategic decisions, in particular in diversified and decentralized organizational structures (Child and Rodrigues, 2003). On the other hand, diversity of interests and control rights also raises the transaction costs of the decision-making process on the board (Hansmann, 1996), a disadvantage which needs to be counterbalanced by the advantages of having diversity. The neutral chairperson, as a specialist in procedures or a 'facilitator' (Grandori, 2001), is able to find generally acceptable solutions to conflicting issues.

6. Conclusions

The dominant view of corporate governance does not sufficiently take into consideration that a modern corporation's key task is to generate, accumulate and transfer firm-specific knowledge. It does not differentiate between firms producing in a traditional way, based on physical work, and firms relying mainly on knowledge work.

This paper argues in contrast that the importance of firm-specific knowledge has to be taken into account. Firm-specific knowledge investments are the essential basis for a sustainable competitive advantage. Financial and knowledge investments must be combined to produce what are commonly called synergies or quasi rents. As a consequence, these quasi rents need to be divided in a way perceived to be fair by the participants.

In particular, knowledge investors should not feel exploited, otherwise they will refuse to make firm-specific investments, and will prefer to make investments in outside options. Corporate governance must secure their ex post bargaining position, once the (necessarily incomplete) labor contracts have been fixed. It is the board that has to take over this task.

With this end in mind, this paper advances three specific proposals:

1. The board should rely much more on *insiders*. The percentage of insiders relative to outsiders should be determined by the relationship of firm-specific knowledge capital to financial capital.
2. The insiders are to be elected by, and responsible to, those *employees of the firm making firm-specific knowledge investments*.
3. The board is to be chaired by a *neutral person*, whose main task is to facilitate the board members' engagement in a productive discourse, which mutually benefits all members of the firm. The chairperson also has to make sure that the board members are prepared to contribute to the firm's common good and refrain from rent seeking.

While arguments may be raised against these proposals, they have the following major advantages over the reform suggested by the dominant corporate governance approach. With respect to *corporate governance design*, our proposals provide incentives for knowledge investors; they countervail the dominance of executives; they strengthen intrinsic work motivation and loyalty to the firm by distributive as well as procedural justice; and they ensure diversity on the board while lowering transaction costs. With respect to *corporate governance theory*, our approach takes into account insights offered by organization theory, namely that multi-party decisions, and even conflicting interests, might be costly but can improve the quality of decisions (Grandori, 2005). Moreover, our approach overcomes the separation of theories focusing on value generation *or* distribution criticized by Asher et al. (2005). We combine the knowledge-based theory of the firm, focusing on producing a sustained competitive advantage on the one hand, with property rights theory focusing on the distribution of residual claims on the other hand. We thus hope to provide a step in the direction of a more adequate theory of the firm as a basis for corporate governance.

Notes

[1] See also the empirical data reported by Lawler and Finegold (2006). It shows that the presence of insiders in the boardroom – in their case inside non-directors - enhances the effectiveness of boards considerably with respect to independence, information, communication, and performance management.

[2] While Coff (1999) well develops the bargaining aspects of firm-specific resources, his analysis is static. He does not consider that employees will not invest in firm-specific resources if their bargaining power does not protect them from hold up.
[3] See Nickerson and Zenger (2004), who argue that simple problems can be left to the market, while problems of medium complexity to authority-based hierarchy and complex problems can be left to consensus-based hierarchy.
[4] We side, in this respect, with Jensen et al. (2004).
[5] Comparable to venture capitalists during the decline of the internet boom after 1997, see Bolton et al. (in press:122).
[6] Technologies typically evolve along different technological trajectories (Teece, 1987; Dosi et al., 1988). Usually, only one of these different trajectories will emerge as the dominant design.
[7] The chairperson of the board, who is elected by the shareholders, has a double vote in the case of disagreement.
[8] In this respect we differ from Aglietta and Reberioux (2005), who call for state regulations, and do not advocate a particular model as we do.
[9] With regard to this criticism, see e.g. Dosi and Marengo (2000), Osterloh et al. (2002).

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